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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/551,799	04/18/2000	Yoshihiro Kota	P/1909-130	2585

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EXAMINER

VITAL, PIERRE M

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/551,799

Applicant(s)

KOTA, YOSHIHIRO

Examiner

Pierre M. Vital

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-293 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Continuation of Disposition of Claims: Claims rejected are 1-27,29,30,34-37,46,47,51-54,63,64,68-71,82-85,89-92,101,102,106-109,117,118,122-125,133,134,138-141,150-170,172,173,179,180,184-187,189,190,201-204,206,207,213,214,218-221,225-228,239-242,244,245,251,252,256-259,261,262,273-276,278,279 and 290-293.

Continuation of Disposition of Claims: Claims objected to are 28,31-33,38-45,48-50,55-62,65-67,72-81,86-88,93-100,103-105,110-116,119-121,126-132,135-137,142-149,171,174-178,181-183,188,191-200,205,208-212,215-217,222-224,229-238,243,246-250,253-255,260,263-272,277 and 280-289.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 6 is objected to because of the following informalities:

The claim recites the limitation "when judgement result according to said judgement processing is that the task is permitted that the task during execution accesses the data area". This language is awkward and ambiguous. Examiner would suggest replacing this limitation with --when judgement result according to said processing for judging is that the task is permitted to access the data area during execution--.

3. Applicant is advised that should claims 21-27 be found allowable, claims 22-27 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 2, 5, 6, 10-13, 153-156 and their dependent claims 17-20, 29-30, 34-37, 46-47, 51-54, 63-64, 68-71, 82-85, 89-92, 101-102, 106-109, 117-118, 122-125, 133-134, 138-141, 167-170, 172-173, 184-187, 189-190, 201-204, 172-173, 218-221, 225-228, 239-242, 244-245, 256-259, 261-262, 273-276, 278-279 and 290-293 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 1 and 5 recite the limitation "judging whether or not it is not capable of being permitted that the task during execution indicated by the task ID accesses the data area indicated by the data area ID". The limitation as recited is awkward and ambiguous and leads to confusion as to its connection to the rest of the claim. Further, it is not clear what "it" refers to in the limitation.

7. Claim 2 recites the limitation "causing said memory with extended address to support". It is not clear what is being "supported" in the claim and the connection of the term "to support" to the rest of the claim cannot be established.

8. Claim 2 recites the limitation "said conversion processing" in line 7. There is insufficient antecedent basis for this limitation in the claim.

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9. Claim 6 recites the limitation "said judgement processing" in line 4. There is insufficient antecedent basis for this limitation in the claim.
10. Claims 10, 12, 153, 155-156 recite the limitation "said task ID". There is insufficient antecedent basis for this limitation in the claim.
11. Claims 10-13 and 153-156 recite the limitation "said data area ID" and "the data area ID". There is insufficient antecedent basis for this limitation in the claim.
12. Claim 12 recites the limitation "said interruption processing number" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-11, 14-18, 21-27, 150-154, 157-161 and 164-168 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshioka et al. (US5,835,963).

As per claims 1 and 5, Yoshioka discloses a memory address space extension device [*addresses are expanded by use of an address space identifier; col. 9, lines 60-61*] comprising a definition table defining an access right of a task ID (identification) with respect to data area [*the process number ASID in the TLB is used as memory protection information;*

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col. 26, lines 17-19]; a task ID register for storing therein the task ID of a task during execution [*the space number asid of the current process is set in the register 51*; col. 24, lines 30-32]; a judgement means for judging as to whether or not it is capable of being permitted that the task during execution indicated by the task ID accesses the data area indicated by the data area ID while referring to said definition table from both of data area ID extracted previously and the task ID stored in said task register [*mismatch between current process asid and process number ASID stored in TLB is utilized for detection of TLB protection fault exception*; col. 26, lines 17-55].

As per claims 2 and 6, Yoshioka discloses an address operational means for converting said CPU address into an extended address [*addresses are expanded by use of an address space identifier*; col. 9, lines 60-61], and a memory having the extended address converted previously, when said judgement means judges that judgement result according to said judgement means is a result that the task during execution accesses the data area, said address operational means executes said conversion processing while causing said memory with extended address to support [*areas marked as mapped are subject to translation based on a comparison of current process asid and process number ASID stored in TLB*; col. 9, lines 63-65; col. 25, lines 10-31].

As per claim 3, Yoshioka discloses a definition table that causes combination that access is permissible or in-permissible with respect to read and/or write to said data area respectively to be defined [*access right to areas P1 through P4 are checked to detect address error*; col. 21, lines 50 – col. 22, line 6].

As per claim 4, Yoshioka discloses a preparation means for preparing said definition table [Fig. 21, col. 21, lines 49-53].

As per claims 7 and 150, Yoshioka discloses a memory address space extension device [*addresses are expanded by use of an address space identifier; col. 9, lines 60-61*] comprising a definition table forming means for forming said definition table [Fig. 21, col. 21, lines 49-53]; a definition table defining an access right of a task with respect to data area [*the process number ASID in the TLB is used as memory protection information; col. 26, lines 17-19*]; an access right judgement means for judging whether or not it causes the access right to the data area requested by the task to be given with respect to the task according to said definition table [*mismatch between current process asid and process number ASID stored in TLB is utilized for detection of TLB protection fault exception; col. 26, lines 17-55*].

As per claims 8, 9 and 151-152, Yoshioka discloses a definition table that defines as to whether or not said task possesses an access right for accessing prescribed data area in every task ID given to the task [col. 21, lines 51-col. 22, line 2; col. 24, lines 9-16].

As per claims 10, 11 and 153-154, Yoshioka discloses an access right judgement means judges whether it causes the access right to the data area requested by said task to be given according to said task ID, and the data area ID indicating the data area requested by said task [col. 24, lines 9-16].

As per claims 14-18 and 157-161, Yoshioka discloses a definition table that defines whether or not it causes access to be permitted with respect to said prescribed data area in every said task [col. 21, lines 59-62].

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As per claims 21-27 and 164-168, Yoshioka discloses a definition table defining causing no-access to be permitted with respect to said prescribed data area in every said task [col. 21, lines 62-67].

Allowable Subject Matter

15. Claims 19-20, 28-149, 162-163 and 169-293 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 12, 13, 155 and 156 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not teach or suggest "an access right judgement means judging whether it causes the access right to the data requested by a task to be given according to an interruption processing number" in combination with the other elements set forth in the claimed invention.

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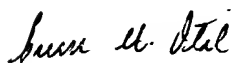
Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111 (c) to consider these references fully when responding to this action. The documents cited therein teach accessing data area based on comparisons between task ID and data area ID.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre M. Vital whose telephone number is (703) 306-5839. The examiner can normally be reached on Mon-Fri, 8:30 am - 6:00 pm, alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (703) 305-3821. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9000.



Pierre M. Vital
June 2, 2003